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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/776,808 | 02/11/2004 | Hamid R. Khazaei | Optovia 6 | 5032 |

7590 07/06/2005

Irwin Ostroff, Esquire
OSTROFF & ASSOCAITES
3 Lackawanna Boulevard
Murray Hill, NJ 07974

EXAMINER

MENEFEE, JAMES A

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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2828

DATE MAILED: 07/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/776,808

Applicant(s)

KHAZAEI ET AL.

Examiner

James A. Menefee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-78 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 51-66 is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-9, 67, 68, 73 and 74 is/are rejected.
- 7) ☒ Claim(s) 5, 6, 10-50, 69-72 and 75-78 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/11/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Preliminary Amendment

By the preliminary amendment filed 1/20/2005, the specification and claims 34-35 and 59 are amended. Claims 1-78 are pending.

Specification

The abstract of the disclosure is objected to because it is longer than 150 words. Correction is required. See MPEP § 608.01(b).

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 74 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 74 includes substeps (c1) and (c2), yet the parent claims already include such substeps; therefore it is not clear how these substeps fit in with the previously claims substeps. However, in the context of the case, it is believed claim 74 was instead intended to depend from claim 73, and has been examined as such.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4, 7-8, 67-68, 73-74 are rejected under 35 U.S.C. 102(e) as being anticipated by Kim et al. (US 2003/0112836). See especially Fig. 3 (For directional orientation noted below, look at the fig. with the page tilted 90 degrees clockwise, i.e. so the words can be read).

Regarding claim 1, Kim discloses a stabilized laser system comprising at least one laser 11, a main transmission filter 12 having first (inputs on the left side) and second (outputs on the right side) ports, and a feedback transmission filter 14 having first (output on bottom) and second (input on top) ports, the first ports of both filters coupled to the at least one laser (note *direct* coupling is not required), each filter having a different spectral response as a function of wavelength, the second port (right side) of main transmission filter 12 being coupled to the output of the system (far right of the figure), and a feedback arrangement comprising a loop coupled between the second ports of the filters 12 and 14.

Regarding claim 2, the filters are separate filters.

Regarding claims 3-4, there are a plurality of n lasers 11, MUX fiber 12, and fiber filter 14.

Regarding claim 7, Kim discloses a stabilized laser system comprising at least one laser 11, means 14 coupled to the laser for generating, from a portion of a signal generated thereby, a

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feedback signal having a wavelength different from a desired wavelength and feeding the feedback signal back to the laser for stabilizing at the desired wavelength.

Regarding claim 8, Kim discloses a stabilized laser system comprising at least one laser 11 which while emitting light and having a pre-selected portion fed back, causes the output of the laser to be shifted in wavelength in a first direction (inherent due to drift of the laser), means 14 coupled to the laser for generating a feedback signal having a spectral response peaking at a wavelength shifted in an opposite direction to provide an output that peaks at the desired wavelength.

Regarding claims 67 and 73, Kim discloses a method of stabilizing a laser system comprising (a) generating a light signal at a desired central wavelength at an output of a laser (or plurality of n lasers) 11, which while emitting light at the desired wavelength and having a portion fed back thereto (through the bottom feedback section) causes the output signal of the laser to be shifted in wavelength in a first direction (lasers are not perfect and inherently their wavelengths will drift) (b) dividing the signal from the laser into a first and second portion (at point 13) said first portion coupled to an output of the system (c) processing the second portion such that the wavelength is shifted in an opposite direction (shifted by the input of pilot signal) and feeding back the second portion to the laser such that the output is essentially at the desired wavelength (because Kim is locking the wavelength in spite of any drift).

Regarding claims 68 and 74, the second portions are passed through filter 14 having a spectral response that shifts the wavelengths in the opposite direction (since any drift is compensated for in the locking) and any multiplexed portion is demultiplexed (i.e. the one line is formed into many at the filters 22) prior to the feeding back.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim. Kim discloses the limitations as above, but does not disclose the system as polarization maintaining. However, polarization maintaining fibers are known in the art, and it would have been obvious to one skilled in the art to include them so that polarization may be controlled, as is known.

Allowable Subject Matter

Claims 51-66 are allowed.

Claims 5-6, 10-50, 69-72, and 75-78 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

While the prior art may read on the broader claims, these claims get into much more detail as to the specific elements of the system, and there is not taught or disclosed in the prior art a stabilized laser system including at least such elements:

Claims 5, 10, 29, 43, 46 – the particular power splitter with ports as claimed.

Claim 51 – the second transmission filter being as claimed.

Claim 60 – the feedback filter being as claimed.

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Claims 69-70 and 75-76 – the filters/multiplexers being bidirectional such that the feedback light goes back therethrough (rather than in a loop) like Kim.

The remaining claims are dependent from those above.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Khazaei et al. (US 2005/0036527) has common inventors as the present case, and appears to correspond to the prior art figures.

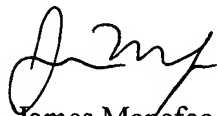
The remaining references also disclose wavelength stabilized lasers, but do not appear to be particularly relevant otherwise.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Menefee whose telephone number is (571) 272-1944. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MinSun Harvey can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



James Menefee

June 28, 2005